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10	PE	.	^		Application Number	09/894,985	
/ "I				SCLOSURE	Filing Date	June 27, 2001	
'				PPLICANT	First Named Inventor	Allen BORONKAY	
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E.	Sheet	1	of	3	Attorney Docket Number	IMMR-059/00US	
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				U.S. PAT	TENT DOC	CUMENTS			
		U.S. Patent Document			Name of	Patentee or Applicant of Cited Documen	Date of Publication		
xaminer nitials*	Cite No.	Number	Kind ((if kn	Kind Code2 (if known) Cass		Patentee or Applicant of Cited Documer Class	Document MM-DL	Document MM-DD-YYY	
AH	A1	5,785,630				Bobick, et al.	07/28/1998	3	
/ ; 	A2	5,766,016		i		Sinclair et al.	06/16/1998		
	A3	5,547,382				Yamasaki et al.	08/20/1996		
	A4	5,466,213				Hogan et al.	11/14/1995		
	A5	5,334,027				Wherlock	08/02/1994		
	A6	5,309,140				Everett, Jr., et al.	05/03/1994	4	
	A7	5,299,810				Pierce et al.	04/05/1994	4	
_	A8	5,275,174				Cook	01/04/1994	4	
	A9	5,271,290				Fischer	12/21/1993	3	
	A10	5,240,417				Smithson et al.	08/31/1993	3	
	A11	5,212,473				Louis	05/18/1993	3	
	A12	5,078,152				Bond et al.	01/07/1992	2	
_	A13	5,038,089				Szakaly	08/06/1991	1	
	A14	5,035,242		- i -		Franklin et al.	07/30/1991	1	
-	A15	5,022,407	_		 	Horch et al.	06/11/1991	1	
	A16	5,019,761				Kraft	05/28/1991	1	
	A17	4,934,694			 	McIntosh	06/19/1990	0	
	A18	4,930,770				Baker	06/05/1990	0	
	A19	4,891,764			 	McIntosh	01/02/1990	0	
	A20	4,794,392			 	Selinko	12/27/198	8	
		4,713,007			-	Alban	12/15/198		
	A21				 	de Vries et al.	11/24/198		
	A22	4,708,656	_		 -	Hladky et al.	07/08/1980		
-	A23	4,599,070			 	Boothroyd	04/08/198		
	A24	4,581,491			 -	Acklam et al.	04/23/198		
	A25	4,513,235			 	Hall et al.	12/02/198		
	A26_	4,236,325			 -	Salisbury, Jr.	07/10/197		
	A27	4, 160,508			 	Feder	10/07/197		
	A28	3,911,416			 -	Diamond et al.	09/09/197		
	A29	3,903,614			-	Hightower	09/02/197		
	A30	3,902,687	_		 	Kagan	11/23/197		
	A31_	3,623,064			 	Corlyon et al.	06/30/197		
-+	A32	3,517,446			++	Hirsch	02/24/197		
	A33	3,497,668			 -	Cutler	11/30/196		
	A34_	3,220,121		- V	 	Hirsch	11/17/196		
	A35	3,157,853	1		PATENT	DOCUMENTS	11/1/190		
xaminer	Cite	T	• D • • • • • •		Ĭ			Γ	
examiner nitials*	No.1	Foreign Patent Document Office ³ Number ⁴ Kind Cod (if know			Nam	e of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Τ ⁶	
	B1	0.349-086		A1	0	want B.V.	01/03/1990		

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 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.
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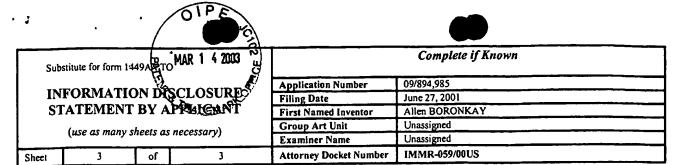
INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	2	of	3

Complete if Known				
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		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	-1
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country	T²
		where published.	
	Cı	Baigrie, "Electric Control Loading - A Low Cost, High Performance Alternative," Proceedings of Interservice/Industry Training Systems Conference, pp. 247-254, November 6-8, 1990	
	C2	Iwata, "Pen based Haptic Virtual Environment," 0-7803-1363-1/93 IEEE, pp. 287-292, 1993	
	СЗ	Russo, "The Design and Implementation of a Three Degree of Freedom Force Output Joystick," MIT Libraries Archives pp. 1-131, May 1990, archived 8/14/90	
	C4	Brooks et al., "Hand Controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," JPL Publication 85-11, NASA-CR-175890; N85-28559, pp. 1-84, 03/1/1985	
	C5	Jones et al., "A perceptual analysis of stiffness," ISSN 0014-4819 Springer International (Springer-Verlag); Experimental Brain Research, Vol. 79, No. 1, pp. 150-156, 1990	
-	C6	Burdea et al., "Distributed Virtual Force Feedback, Lecture Notes for Workshop on Force Display in Virtual Environments and its Application to Robotic Teleoperation," 1993 IEEE International Conference on Robotics and Automation, pp. 25-44, 05/02/1993	•
	C7	Snow et al., 'Model-X Force-Reflecting-Hand-Controller," NT Control No. NPO-17851; JPL Case No. 7348, pp. 1-4 with	
	C8	Ouh-Young, "Force Display in Molecular Docking," Doctoral Dissertation, University of North Carolina at Chapel Hill, UMI Order No. 9034744, p. 1-369, 1990	
	C9	Tadros, "Control System Design for a Three Degree of Freedom Virtual Environment Simulator Using Motor/Brake Pair Actuators," MIT Archive, pp. 1-88, February 1990, archived 8/13/90	
	C10	Caldwell et al., "Enhanced Tactile Feedback (Tele-Taction) Using a Multi-Functional Sensory System," 1050-4729/93, pp. 955-960, 1993	
	Cii	Adelstein et al., "Design and Implementation of a Force Reflecting Manipulandum for Manual Control research," DSC-Vol. 42, Advances in Robotics, pp. 1-12, 1992	
-	C12	Gotow et al., "Controlled Impedance Test Apparatus for Studying Human Interpretation of Kinesthetic Feedback," WA11-11:00, pp. 332-337	
	C13	Stanley et al., "Computer Simulation of Interacting Dynamic Mechanical Systems Using Distributed Memory Parallel Processors," DSC-Vol. 42, Advances in Robotics, pp. 55-61, ASME 1992	
	C14	Russo, "Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices," DSC-Vol. 42, Advances in Robotics, pp. 63-70, ASME 1992	
	C15	Kontarinis et al., "Display of High-Frequency Tactile Information to Teleoperators," Telemanipulator Technology and Space Telerobotics, Won S. Kim, Editor, Proc. SPIE Vol. 2057, pp. 40-50, Sep. 7-9, 1993	
	C16	Patrick et al., "Design and Testing of A Non-reactive, Fingertip, Tactile Display for Interaction with Remote Environments," Cooperative Intelligent Robotics in Space, Rui J. deFigueiredo et al, Editor, Proc. SPIE Vol. 1387, pp. 215-222, 1990	
	C17	Adelstein, "A Virtual Environment System For The Study of Human Arm Tremor," Ph.D. Dissertation, Dept. of Mechanical Engineering, MIT, June 1989, archived 3/13/90	
	C18	Bejczy, "Sensors, Controls, and Man-Machine Interface for Advanced Teleoperation," Science, Vol. 208, No. 4450, pp. 1327-1255, 1980	
	C19	Bejczy et al., "Generalization of Bilateral Force-Reflecting Control of Manipulators," Proceedings Of Fourth CISM- IFTOMM: Sep. 8-12, 1981	
	C20	McAffee et al., "Teleoperator Subsystem/Telerobot Demonstrator: Force Reflecting Hand Controller Equipment Manual," JPL T988, JPL D-5172	
•	C21	Minsky, "Computational Hapties: The Sandpaper System for Synthesizing Texture for a Force-Feedback Display," Ph.D. Dissertation, MIT, June 1995, archived 7/6/95	
	C22	Jacobsen et al., "High Performance, Dextrous Telerobotic Manipulator With Force Reflection," Intervention/ROV '91 Conference & Exposition, Hollywood, Florida, May 21-23, 1991	
	C23	Shimoga, "Finger Force and Touch Feedback Issues in Dexterous Telemanipulation," Proceedings of Fourth Annual Conference on Intelligent Robotic Systems for Space Exploration, Rensselaer Polytechnic Institute, Sep. 30-Oct. 1, 1992	
	C24	IBM Technical Disclosure Bulletin, "Mouse Ball-Actuating Device With Force and Tactile Feedback," Vol. 32, No. 9B, February 1990	
	C25	Terry et al., "Tactile Feedback In A Computer Mouse," Proceedings of Fourteenth Annual Northeast Bioengineering Conference, University of New Hampshire, March 10-11, 1988	
	C26	Howe, "A Force-Reflecting Teleoperated Hand System for the Study of Tactile Sensing in Precision Manipulation," Proceedings of the 1992 IEEE International Conference on Robotics and Automation, Nice, France, May 1992	
	C27	Eberhardt et al., "OMAR - A Haptic display for speech perception by deaf and deaf-blind individuals," IEEE Virtual Reality Annual International Symposium, Seattle, WA, Sep. 18-22, 1993	
	•		



_C2	8 Robinowitz et al., "Multidimensional tactife displays: Identification of vibratory intensity, frequency, and contractor area," Journal of The Acoustical Society of America, Vol. 82, No. 4, October 1987	
C2	9 Bejczy et al., "Kinesthetic Coupling Between Operator and Remote Manipulator," International Computer Technology Conference: The American Society of Mechanical Engineers, San Francisco, CA, August 12-15, 1980	
C3	Bejczy et al., "A Laboratory Breadboard System For Dual-Arm Teleoperation," SOAR '89 Workshop, JSC, Houston, TX,	
C3	Consumer Electronics, Vol. 41, No. 3, August 1995	
C3	Marcus, "Touch Feedback in Surgery" Proceedings of Virtual Reality and Medicine The Cutting Edge, Sep. 8-11, 1994	
C3	Bejczy, et al., "Universal Computer Control System (UCCS) For Space Telerobots," CH2413-3/87/0000/0318501.00	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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